

09/744675
525 Rec'd PCT/PTO 29 JAN 2001

Express Mail No. EL728559173US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE CITATION	DOCKET NO. XY EQUINE-3 USNP	SERIAL NO.
	APPLICANT (S) Edward L. Squires, Patrick M. McCue and George E. Seidel	
	FILING DATE January 29, 2001	ART UNIT

I.

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
CM	32,350	02/10/87	Bhattacharya	204	180.1	11/22/74
	3,687,806	08/29/72	Van den Bovenkamp	195	1.3	11/04/69
	3,829,216	08/13/74	Persidsky	356	36	
	3,894,529	07/15/75	Shrimpton	128	1 R	04/10/69
	4,009,260	02/22/77	Ericsson	424	105	12/11/74
	4,067,965	01/10/78	Bhattacharya	424	105	12/17/75
	4,083,957	04/11/78	Lang	424	78	02/04/76
	4,085,205	04/18/78	Hancock	424	105	01/24/77
	4,092,229	05/30/78	Bhattacharya	204	180 R	10/20/76
	4,155,831	05/22/79	Bhattacharya	207	299 R	02/23/78
	4,191,749	03/04/80	Bryant	424	105	10/11/77
	4,225,405	09/30/80	Lawson	204	180 R	08/16/78
	4,276,139	06/30/81	Lawson	204	180 R	10/09/79
	4,339,434	07/13/82	Ericsson	424	105	08/17/81
	4,362,246	12/07/82	Adair	209	3.3	07/14/80
	4,448,767	05/15/84	Bryant	424	85	02/15/80
	4,511,661	04/16/85	Goldberg	436	503	12/30/83
	4,660,971	04/28/87	Sage et al.	356	39	05/03/84
	4,680,258	07/14/87	Hammerling et al	435	7	08/09/83
	4,698,142	10/06/87	Muroi et al	204	182.3	07/31/85
	4,749,458	06/07/88	Muroi et al	204	182.3	03/02/87
	4,988,619	01/29/91	Pinkel	435	30	11/30/87
	4,999,283	03/12/91	Zavos et al	435	2	08/18/89
	5,021,244	06/04/91	Spaulding	424	561	05/12/89
	5,135,759	08/04/92	Johnson	424	561	04/26/91
	5,346,990	09/13/94	Spaulding	530	350	03/12/91
	5,371,585	12/06/94	Morgan et al.	356	246	11/10/92
	5,439,362	08/08/95	Spaulding	424	185.1	07/25/94
CM	5,466,572	11/14/95	Sasaki et al.	435	2	04/25/94

CM	5,483,469	01/09/96	Van den Engh et al.	364	555	08/02/93
	5,514,537	05/07/96	Chandler	435	2	11/28/94
	5,589,457	12/31/96	Wiltbank	514	12	07/03/95
	5,602,039	02/11/97	Van den Engh	436	164	10/14/94
	5,602,349	02/11/97	Van den Engh	73	864.85	10/14/94
	5,660,997	08/26/97	Spaulding	435	7.21	06/07/95
	5,690,895	11/25/97	Matsumoto et al.	422	73	12/06/96
	5,700,692	12/23/97	Sweet	436	50	09/27/94
	5,726,364	03/10/98	Van den Engh	73	864.85	02/10/97
	5,985,216	11/16/99	Rens et al.			07/24/97
CM	6,071,689	06/06/00	Seidel et al.	435	2	01/29/98

II.

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NO	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
CM	WO 96/12171	13/10/95	US				
	WO 98/34094	06/08/98	NZ				
	WO 99/05504	07/24/98	US				
	WO 99/33956	08/07/99	US				
	WO 99/38883	05/08/99	US				
	WO 99/42810	26/08/99	US				
	WO 00/06193	10/02/00	US				

III.

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

CM	Amann, R.P. et al, "Prospects For Sexing Mammalian Sperm," Colorado Associated University Press, Animal Reproduction Laboratory College of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins, CO, 80523, 1982
	Table of contents only
	Amoah, E.A. and Gelaye, S. 1996. Biotechnological advances in goat reproduction. J. Anim. Sci. 75(2):578-585.
	Anderson, V.K., Aamdal, J. and Fougner, J.A. 1973. Intrauterine und tiefzervikale Insemination mit Gefriersperma beim Schat. Zuchthygiene. 8:113-118.
	Baker, R.D., Dziuk, P.J. and Norton, H.W. 1968. Effect of volume of semen, number of sperm and drugs on transport of sperm in artificially inseminated gilts. J. Anim. Sci. 27:88-93.
	Becker, S.E. and Johnson, A.L. 1992. Effects of gonadotropin releasing hormone infused in a pulsatile or continuous fashion on serum gonadotropin concentrations and ovulation in the mare. J. Anim. Sci. 70:1208-1215.
	Bedford, S. J. and Hinrichs, K. 1994. The effect of insemination volume on pregnancy rates of pony mares. Theriogenology 42:571-578.
	Berger, G.S. 1987. Intratubal insemination. Fert. Steril. 48:328-330.
	Blanchard, T. and Dickson, V., "Stallion Management", The Veterinary Clinics of North America, Equine Practice, Vol. 8, No. 1, April 1992, pp 207 - 218.

CM	Bracher, V. and Allen, W.R., "Videoendoscopic Examination of the Mare's Uterus: Findings in Normal Fertile Mares", Equine Veterinary Journal, Vol. 24 (1992), pp. 274-278
	Braselton, W.E. and McShan, W.H. 1970. Purification and properties of follicle stimulating and luteinizing hormones from horse pituitary glands. Arch. Biochem. Biophys. 139:45-48.
	Bristol, S.P. 1982. Breeding behavior of a stallion at pasture with 20 mares in synchronized oestrus. J. Reprod. Fert. Suppl. 32:71.
	Burwash, L.D., Pickett, B.W., Voss, J.L. and Back, D.G. 1974. Relationship of duration of estrus to pregnancy rate in normally cycling, non-lactating mares. J.A.V.M.A. 165:714-716.
	Caslick, E.A., "The Vulva and the Vulvo-vaginal Orifice and its Relation to Genital Health of the Thoroughbred Mare", Cornell Veterinarian, Vol. 27, 1937, pp. 178-187
	Call, et al., "Assesment of Ram and Boar Spermatozoa During Cell-Sorting by Flow Cytometry", Reproduction Dom Animal, Vol. 32, pp 251-258 (1997)
	Chung, Y.G., Schenk, J.L., Herickhoff, L.A. and Seidel, G.E. Jr. 1998. Artificial insemination of superovulated heifers with 600,000 sexed sperm. J Anim. Sci. Suppl. 1. 836:215. abstr.
	Clement, F., Vincent, P., Mahla, R., Meriaux, J.C. and Palmer, E. 1998. Which insemination fertilizes when several successive inseminations are performed before ovulation. 7 th Int. Symp. Eq. Repro. 151. abstr.
	Cran, D.C., McKelvey, W.A.C., King, M.E., Dolman, D.F., McEvoy, T.G., Broadbent, P.J. and Robinson, J.J. 1997. Production of lambs by low dose intrauterine insemination with flow cytometrically sorted and unsorted semen. Theriogenology. 47(1):267. abstr.
	Cran, D.G., et al, "Production of Lambs by Low Dose Intrauterine Insemination with Flow Cytometrically Sorted and Unsorted Semen", Theriogenology, Vol. 47, pp. 267, (Abstract), (1997)
	Cran, D.G., Johnson, L.A., Miller, N.G., Cochrane, D. and Polge, C. 1993. Production of bovine calves following separation of X- and Y-chromosome bearing sperm and <i>in vitro</i> fertilisation. Vet. Rec. 132:40-41.
	Curran, S. 1998. In: Equine Diagnostic Ultrasonography. Fetal gender determination. Rantanen & McKinnon. 1 st Ed. Williams and Wilkins. pp. 165-169.
	Day, B.N., Abeydeera, L.R., Johnson, L.A., Welch, G.R., Wang, W.H., Cantley, T.C. and Rieke, A. 1998. Birth of piglets preselected for gender following in vitro fertilization of in vitro matured pig oocytes by X and Y bearing spermatozoa sorted by high speed flow cytometry. Theriogenology. 49(1):360. abstr.
	Dean, P.N., Pinkel, D. and Mendelsob. n, M.L. 1978. Hydrodynamic orientation of spermatozoa heads for flow cytometry. Biophys. J. 23:7-13.
	Demick, D.S., Voss, J.L. and Pickett, B.W. 1976. Effect of cooling, storage, glycerization and spermatozoal numbers on equine fertility. J. Anim. Sci. 43:633-637.
	DenDaas, J.H.G., De Jong, G., Lansbergen, L.M.T.E. and Van Wagendonk-De Leeuw, A.M. 1998. The relationship between the number of spermatozoa inseminated and the reproductive efficiency of dairy bulls. J Dairy Sci. 81: 1714-1723.
	Donaldson, L. E., "Effect of Insemination Regimen on Embryo Production in Superovulated Cows", The Veterinary Record, July 13, 1985, pp. 35-37
	Donoghue, A.M., Byers, A.P., Johnston, L.A., Armstrong, D.L. and Wildt, D.E. 1996. Timing of ovulation after gonadotropin induction and its importance to successful intrauterine insemination in the tiger (<i>Panthera tigris</i>). J. Reprod. Fert. 107:53-58.
	Douglas, R.H., Nuti, L. and Ginther, O.J. 1974. Induction of ovulation and multiple ovulation on seasonally-anovulatory mares with equine pituitary fractions. Theriogenology. 2(6): 133-142.
	Duchamp, G., Bour, B., Combamous, Y. and Palmer, E. 1987. Alternative solutions to hCG induction of ovulation in the mare. J. Reprod. Fert. Suppl. 35:221-228.
	Evans, M.J. and Irvine, C.H.G. 1977. Induction of follicular development, maturation and ovulation by gonadotropin releasing hormone administration to acyclic mares. Bio. Reprod. 16:452-462.
	Fitzgerald, B.P., Peterson, K.D. and Silvia, P.J. 1993. Effect of constant administration of a gonadotropin-releasing hormone agonist on reproductive activity in mares: Preliminary evidence on suppression of ovulation during the breeding season. Am. J. Vet. Res. 54:1746-1751.
	Fluharty, F.L., et al., "Effects of Age at Weaning and Diet on Growth of Calves", Ohio Agri. Res. and Dev. Circular, 1996, 156: 29.
	Fugger, E.F., "Clinical Experience with Flow Cytometric Separation of Human X- and Y- Chromosome Bearing Sperm", Theriogenology, Vol. 52, pp. 1435-1440 (1999)

CM	Fulwyler, M.J. 1965. Electronic separation of biological cells by volume. <i>Science</i> . 150:910.
	Fulwyler, M.J. 1977. Hydrodynamic orientation of cells. <i>J Histochem. Cytochem.</i> 25:781-783.
	Garner, D.L., Gledhill, B.L., Pinkel, D., Lake, S., Stephenson, D., Van Dilla, M.A. and Johnson, L.A. 1983. Quantification of the X and Y chromosome-bearing spermatozoa of domestic animals by flow cytometry. <i>Biol. Reprod.</i> 28:312-321.
	Ginther, O.J. 1971. Some factors which alter estrus cycle in mares. <i>J. Anim. Sci.</i> 33:1158. abstr.
	Ginther, O.J. 1983. Sexual behavior following introduction of a stallion into a group of mares. <i>Theriogenology</i> . 19:877.
	Ginther, O.J. 1992. In: <i>Reproductive Biology of the Mare</i> . (2 nd Ed.) Equiservices, Cross Plains, WI.
	Guillou, F. and Combamous, Y. 1983. Purification of equine gonadotropins and comparative study of their acid-dissociation and receptor-binding specificity. <i>Biochem. Biophys. Acta.</i> 755:229-236.
	Gurnsey, M.P., and Johnson, L.A., "Recent improvements in efficiency of flow cytometric sorting of X and Y- chromosome bearing sperm of domestic animals: a review", 1998, New Zealand Society of Animal Protection, three pages.
	Gourley, D.D. and Riese, R.L. 1990. Laparoscopic artificial insemination in sheep. <i>Vet. Clin. N. Amer: Food Anim. Prac.</i> 6(3):615-633.
	Harrison, L.A., Squires, E.L. and McKinnon, A.O. 1991. Comparison of hCG, buserelin and luproliol for induction of ovulation in cycling mares. <i>Eq. Vet. Sci.</i> 3:163-166.
	Hawk, H. "Fertilization Rates in superovulating cows after deposition of semen on the infundulum near the uterotubal junction or after insemination with high numbers of sperm.", XP-002103478, Biosis, 1988, one page.
	Hofferer, S., Lecompte, F., Magallon, T., Palmer, E. and Combamous, Y. 1993. Induction of ovulation and superovulation in mares using equine LH and FSH separated by hydrophobic interaction chromatography. <i>J. Reprod. Fert.</i> 98:597-602.
	Holtan, D.W., Douglas, R.H. and Ginther, O.J. 1977. Estrus, ovulation and conception following synchronization with progesterone, prostaglandin F2 ct and human chorionic gonadotropin in pony mares. <i>J. Anim. Sci.</i> 44:431-437.
	Householder, D.D., Pickett, B.W., Voss, J.L. and Olar, T.T. 1981. Effect of extender, number of spermatozoa and hCG on equine fertility. <i>J. Equine Vet. Sci.</i> 1:9-13.
	Howard, J.G., Bush, M., Morton, C., Morton, F., Wentzel, K. and Wildt, D.E. 1991. Comparative semen cryopreservation in ferrets (<i>Mustela putorius furo</i>) and pregnancies after laparoscopic intrauterine insemination with frozen-thawed spermatozoa. <i>J. Reprod. Fert.</i> 92:109-118.
	Howard, J.G., Roth, T.L., Byers, A.P., Swanson, W.F. and Wildt, D.E. 1997. Sensitivity to exogenous gonadotropins for ovulation and laparoscopic artificial insemination in the cheetah and clouded leopard. <i>Biol. Reprod.</i> 56:1059-1068.
	Hyland, J.H., Ainsworth, C.G.V. and Langsford, D.A. 1988. Gonadotropin-releasing hormone (GnRH) delivered by continuous infusion induces fertile estrus in mares during seasonal acyclicity. <i>Proc. Amer. Assoc. Eq. Prac.</i> 181-190.
	Jafar, et al., "Sex Selection in Mammals: A Review", <i>Theriogenology</i> , Vol. 46, pp 191-200 (1996)
	Jasko, D.J., Martin, J.M. and Squires, E.L. 1992. Effect of volume and concentration of spermatozoa on embryo recovery in mares. <i>Theriogenology</i> . 37:1233-1239
	Johnson, A.L. 1986. Pulsatile release of gonadotropin releasing hormone advances ovulation in cycling mares. <i>Biol. Reprod.</i> 35:1123-1130.
	Johnson, A.L. and Becker, S.E. 1988. Use of gonadotropin-releasing hormone (GnRH) treatment to induce multiple ovulations in the anestrous mare. <i>Eq. Vet. Sci.</i> 8:130-134.
	Johnson, L.A. and Pinkel, D. 1986. Modification of a laser based flow cytometer for high resolution DNA analysis of mammalian spermatozoa. <i>Cytometry</i> . 7:268-273.
	Johnson, L.A., et al, "Sex Preselection in Swine: Flow Cytometric Sorting of X- and Y- Chromosome Bearing Sperm to Produce Offspring", <i>Boar Semen Preservation IV</i> , 2000, pp. 107-114.
	Johnson, L.A., "Advances in Gender Preselection in Swine" <i>Journal of Reproduction and Fertility Supplement</i> , Vol. 52, pp. 255-266 (1997)
	Johnson, L.A., "Sex Preselection in Swine: Altered Sex Ratios in Offspring Following Surgical Insemination of Flow Sorted X- and Y- Bearing Sperm", <i>Reproduction in Domestic Animals</i> , Vol. 26, pp. 309-314 (1991)
	Johnson, L.A. 1992. Gender preselection in domestic animals using flow cytometrically sorted sperm. <i>J Anim. Sci. Suppl</i> 1.70:8-18.

Ch	Johnson, L.A. 1994. Isolation of X- and Y-bearing spermatozoa for sex preselection. <i>In</i> : Oxford Reviews of Reproductive Biology. Ed. HH Charlton. Oxford University Press. 303-326.
	Johnson, L.A. 1997. Advances in gender preselection in swine. <i>J Reprod. Fert. Suppl.</i> 52:255-266.
	Johnson, L.A., and Pinkel, D., "Modification of a Laser-Based flow Cytometer for High-Resolution DNA Analysis of Mammalian Spermatozoa", <i>Cytometry</i> 7, 1986, pp 268 - 273.
	Johnson, L.A. and Welch, G.R., "Sex Preselection: High-speed flow cytometric sorting of X and Y sperm for maximum efficiency", <i>Theriogenology</i> , Vol. 52, (1999), pp. 1323-1341
	Johnson, L.A., et al., "Sex Preselection in Rabbits: Live Births from X and Y Sperm Separated by DNA and Cell Sorting", <i>Exceptional Paper-Rapid Publication</i> , XP-002103476, <i>Biology of Reproduction</i> 41, 199-203, 1989, pp 199-203.
	Johnson, L.A., Flook, J.P., Look, M.V. and Pinkel, D. 1987b. Flow sorting of X and Y chromosome bearing spermatozoa into two populations. <i>Gam. Res.</i> 16:203-212.
	Johnson, L.A., Welch, G.R., Rens, W. and Dobrinsky, J.R. 1998. Enhanced flow cytometric sorting of mammalian X and Y sperm: high speed sorting and orienting no 77.1e for artificial insemination. <i>Theriogenology</i> . 49(1):361. abstr.
	Johnson, L.A., et al., 1994. Improved flow sorting resolution of X- and Y- chromosome bearing viable sperm separation using dual staining and dead cell gating. <i>Cytometry</i> 17 (suppl 7):83.
	Johnson, L.A., "Sex Preselection in Swine: Altered Sex Ratios in Offspring Following Surgical Insemination of Flow Sorted X- and Y- Bearing Sperm", <i>Reproduction in Domestic Animals</i> , Vol. 26, pp. 309-314 (1991)
	Johnson L.A., et al., 1987. Flow cytometry of X- and Y- chromosome bearing sperm for DNA using an improved preparation method and staining with Hoechst 333-42. <i>Gamete Research</i> 17: 203-212
	Johnson, "Gender preselection in Mammals: An overview", <i>Deutsch. Tierarztl. Wschr.</i> , Vol. 103, pp 288-291 (1996)
	Kachel, V., et al., "Uniform Lateral Orientation, Cused by Flow Forces, of Flat Particles in Flow-Through Systems", <i>The Journal of Histochemistry and Cytochemistry</i> , 1997, Vol. 25, No. 7, pp 774 -780.
	Kilicarslan, M.R., Horoz, H., Senunver, S.C., Konuk, S.C., Tek, C. and Carioglu, B. 1996. Effect of GnRH and hCG on ovulation and pregnancy in mares. <i>Vet. Rec.</i> 139:119-120.
	Lapin, D.R. and Ginther, O.J. 1977. Induction of ovulation and multiple ovulations in seasonally anovulatory and ovulatory mares with an equine pituitary extract. <i>J. Anim. Sci.</i> 44:834-842.
	Lawrenz, R. 1985. Preliminary results of non-surgical intrauterine insemination of sheep with thawed frozen semen. <i>J S Afr. Vet. Assoc.</i> 56(2):61-63.
	Lindsey, A., et al., "Hysteroscopic Insemination of Mares with Nonfrozen Low-dose Unsexed or Sex-sorted Spermatozoa", currently unpublished, pp. 1-15.
	Long, C.R., Rath, D., Welch, G.R., Schreier, L.L., Dobrinsky, J.R. and Johnson, L.A. 1998. <i>Theriogenology</i> . 49(1):363. abstr.
	Macmillan, K.L. and Day, A.M., "Prostaglandin F2a : A Fertility Drug In Dairy Cattle?", <i>Animal Research Station, Private Bag, Hamilton, New Zealand, Theriogenology</i> , Vol. 18 No. 3, pp. 245-253 (1982)
	Matsuda, Y. and Tobari, I. 1988. Chromosomal analysis in mouse eggs fertilized <i>in vitro</i> with sperm exposed to ultraviolet light (UV) and methyl and ethyl methanesulfonate (MMS and EMS). <i>Mutat. Res.</i> 198:131-144.
	Maxwell, W.M.C., Evans, G., Rhodes, S.L., Hillard, M.A. and Bindon, B.M. 1993. Fertility of Superovulated Ewes after Intrauterine or Oviductal Insemination with Low Numbers of Fresh or Frozen-Thawed Spermatozoa. <i>Reprod. Fert. Dev.</i> 5:57-63.
	McDonald, L.E. 1988. Hormones of the pituitary gland. <i>In</i> : <i>Veterinary Pharmacology and Therapeutics</i> . 6 th ed. Edited by N.H. Booth and L.E. McDonald. Ames, Iowa State Univ. Press. pp. 590.
	McKeuna, T., Lenz, R.W., Fenton, S.E. and Ax, R.L. 1990. Nonreturn rates of dairy cattle following uterine body or comual insemination. <i>J. Dairy Sci.</i> 73:1179-1783.
	McKinnon, A. and Voss, J., "Equine Reproduction", Lea & Febiger, Philadelphia, 1993, pp 291, 299 - 302, 345 - 348, 739 - 797.
	McKinnon, A. et al, 1993. Predictable ovulation in mares treated with an implant of the GnRH analogue deslorelin. <i>Eq. Vet. J.</i> 25:321-323.
	McKinnon, A.O. et al, 1996. Repeated use of a GnRH analogue deslorelin (Ovuplant) for hastening ovulation in the transitional mare. <i>Eq. Vet. J.</i> 29:153-155.

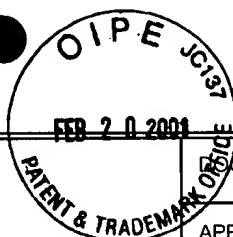
525 Rec'd PCT/PTO 29 JAN 2001

cn	McNutt, T.L. and Johnson, L.A. 1996. Flow cytometric sorting of sperm: influence on fertilization and embryo/fetal development in the rabbit. <i>Mol. Reprod. Dev.</i> 43:261-267.
	Meinert, C., et al., "Advancing the time of ovulation in the mare with a short-term implant releasing the GnRH analogue deslorelin", <i>Equine Veterinary Journal</i> , 25, 1993, pp 65 - 68.
	Meyers, P.J., Bowman, T., Blodgett, G., Conboy, H.S., Gimenez, T., Reid, M.P., Taylor, B.C., Thayer, J., Jochle, W. and Trigg, T.E. 1997. Use of the GnRH analogue, deslorelin acetate, in a slow release implant to accelerate ovulation in oestrous mares. <i>Vet. Rec.</i> 140:249-252.
	Michel, T.H., Rosedale, P.D. and Cash, R.S.G. 1986. Efficacy of human chorionic gonadotrophin and gonadotrophin releasing hormone for hastening ovulation in Thoroughbred mares. <i>Eq. Vet. J.</i> 6:438-442.
	Michaels, Charles, "Beef A.I. Facilities that work", <i>Proc. Fifth N.A.A.B Tech. Conf. A.I. Reprod.</i> Columbia, MO. pp. 20-22.
	Molinia, F.C., Gibson, R.J., Brown, A.M., Glazier, A.M. and Rodger, J.C. 1998. Successful fertilization after superovulation and laparoscopic intrauterine insemination of the brushtail possum, <i>Trichosurus vulpecula</i> , and tammar wallaby, <i>Macropus eugenii</i> . <i>J.Reprod. Fert.</i> 112:9-17.
	Morcom, C.B. and Dukelow, W.R. 1980. A research technique for the oviductal insemination of pigs using laparoscopy. <i>Lab. Anim. Sci.</i> 1030-1031.
	Morris, L.H., et al., "Hysteroscopic insemination of small numbers of spermatozoa at the uterotubal junction of preovulatory mares", <i>Journal of Reproduction and Fertility</i> , Vol. 118, pp. 95-100 (2000)
	Mullet, W. and Gautier, F. 1975. Interactions of heteroaromatic compounds with nucleic acids. <i>Euro. J Biochem.</i> 54:358.
	Nowshari, et al., "Superovulation of Goats with Purified pFSH Supplemented with Defined Amounts of pLH", <i>Theriogenology</i> , Vol 43, pp 797-802 (1995)
	Pace, M.M. and Sullivan, J.J. 1975. Effect of timing of insemination, numbers of spermatozoa and extender components on pregnancy rates in mares inseminated with frozen stallion semen. <i>J Reprod. Fert. Suppl.</i> 23:115-121.
	Parrish, J.J., et al., "Capacitation of bovine sperm by heparin", <i>Biology of Reproduction</i> , Vol. 38, pp. 1171-1180 (1988)
	Peippo, J., et al., "Sex diagnosis of equine preimplantation embryos using the polymerase chain reaction", <i>Theriogenology</i> , Vol. 44 619-627 (1995)
	Perry, E.J. 1968. Historical Background In: <i>The Artificial Insemination of Farm Animals</i> . 4 th ed. Edited by E.J. Perry. New Brunswick, Rutgers University Press, pp. 3-12.
	Petersen, G.A., et al. "Cow and Calf Performance and Economic Considerations of Early Weaning of Fall-Born Beef Calves", <i>J. Anim. Sci.</i> , 1987, 64:15, pp 15-22.
	Pickett, B.W., and Shiner, K.A., "Recent developments in artificial insemination in horses", <i>Livestock Production Science</i> , 40, 1994, pp 31 - 36.
	Pickett, B.W., Burwash, L.D., Voss, J.L. and Back, D.G. 1975b. Effect of seminal extenders on equine fertility. <i>J. Anim. Sci.</i> 40:1136-1143.
	Pinkel, D., et al, "Flow Cytometric Determination of the Proportions of X- and Y- Chromosome-Bearing Sperm in Samples of Purportedly Separated Bull Sperm", <i>Journal of Animal Science</i> , Vol. 60, No. 5, 1985, pp 1303 - 1307.
	Rath, D., et al., "Low Dose Insemination Technique in the Pig", <i>Boar Semen Preservation IV</i> , 2000, pp. 115-118.
	Rath, D., et al., "Production of Piglets Preselected for Sex Following in Vitro Fertilization with X and Y Chromosome-Bearing Spermatozoa Sorted by Flow Cytometry", <i>Theriogenology</i> , 47, 1997, pp 795 - 800.
	Reiling, B.A., et al., "Effect of Prenatal Androgenization on Performance, Location, and Carcass and Sensory Traits on Heifers in Single Calf Heifer System", <i>J. Anim. Sci.</i> , 1995, 73: 986, pp 986-992.
	Rens, W., et al., "Improved Flow Cytometric Sorting of X- and Y- Chromosome Bearing Sperm: Substantial Increase in Yield of Sexed Semen", <i>Molecular Reproduction and Development</i> , 1999, pp 50-56.
	Rens, W., et al., "A Novel Nozzle for More Efficient Sperm Orientation to Improve Sorting Efficiency of X and Y Chromosome-Bearing Sperm", <i>Technical Notes, Cytometry</i> 33, 1998, pp 476-481.
	Ritar, A. and Ball, A. 1991. Fertility of young cashmere goats after laparoscopic insemination. <i>J. Agr. Sci.</i> 117:271-273.
	Roberts, J.R. 1971. In: <i>Veterinary Obstetrics and Genital Diseases</i> . Ithaca, New York. pp. 740-749.

525 Rec'd PCT/PTO 29 JAN 2001

cm	Roth, T.L., Wolfe, B.A., Long, J.A., Howard, J. and Wildt, D.E. 1997. Effects of equine chorionic gonadotropin, human chorionic gonadotropin, and laparoscopic artificial insemination on embryo, endocrine, and luteal characteristics in the domestic cat. Bio Reprod. 57:165-171.
	Rowley, H-S., Squires, E.L. and Pickett, B.W. 1990. Effect of insemination volume on embryo recovery in mares. J. Equine Vet. Sci. 10:298-300.
	Salamon, S. 1976. <i>Artificial Insemination of Sheep</i> . Chippendale, New South Wales. Publicity Press. p.83-84.
	Salisbury, G.W. and VanDemark, N.L. 1961. <i>Physiology of Reproduction and Artificial Insemination of Cattle</i> . San Francisco: Freeman and Company.
	SAS, SAS/STAT ® User's Guide (Release 6.03), SAS Inst. Inc., Cary, NC., 1988. 3 pages
	Schenk, J.L. and Seidel, Jr., G.E., "Imminent Commercialization of Sexed Bovine", Proceedings, The Range Beef Cow Symposium XVL, 1999, pp 89-96.
	Schenk, J.L., "Cryopreservation of flow-sorted bovine spermatozoa", Theriogenology, Vol. 52, 1375-1391 (1999)
	Schmid R.L., et al, "Fertilization with Sexed Equine Spermatozoa Using Intracytoplasmic Sperm Injection and Oviductal Insemination", 7th International Symposium On Equine Reproduction, pp. 139 (Abstract) (1998)
	Seidel, Jr., G.E. et al, "Insemination Of Heifers With Very Low Numbers Of Frozen Spermatozoa", Colorado State University (1996)
	Seidel, Jr., G. E., et al, "Insemination of Holstein Heifers With Very Low Numbers Of Unfrozen Spermatozoa", Colorado State University, Atlantic Breeders Cooperative, (1995)
	Seidel, Jr., G. E., "Artificial Insemination With X-and Y-Bearing Bovine Sperm", Animal Reproduction and Biotechnology Laboratory, Colorado State University, (1996)
	Seidel, G.E. Jr, et al., "Insemination of Heifers with Sexed Sperm", Theriogenology, Vol. 52, pp. 1407-1421 (1999)
	Seidel, G.E. Jr, et al., "Artificial Insemination of Heifers with Cooled, Unfrozen Sexed Semen", Theriogenology, Vol. 49 pp. 365 (Abstract) (1998)
	Seidel, G.E. Jr., et al, 1997. Uterine insemination of heifers with very low numbers of nonfrozen and sexed spermatozoa. Theriogenology. 48:1255-1264.
	Senger, P.L., Becker, W.C., Davidge, S.T., Hillers, J.K. and Reeves, J.J. 1988. Influence of comual insemination on conception rates in dairy cattle. J Anim. Sci. 66:3010-3016.
	Shelton, J.N. and Moore, N.W. 1967. The response of the ewe to pregnant mare gonadotropin and to horse anterior pituitary extract. J. Reprod. Fert. 14:175 - 177.
	Squires, E., "Simultaneous Analysis of Multiple Sperm Attributes by Flow Cytometry", Diagnostic Techniques and Assisted Reproductive Technology, The Veterinary Clinics of North America, Equine Practice, Vol. 12, No. 1, April 1996, pp127 - 130.
	Squires, E.L, Moran, D.M., Farlin, ME., Jasko, D.J., Keefe, T.J., Meyers, S.A., Figueiredo, E., McCue, P.M. and Jochle, W. 1994. Effect of dose of GnRH analogue on ovulation in mares. Theriogenology. 41:757-769.
	Squires, E.L., et al, "Cooled and frozen stallion semen", Bulletin No. 9, Colorado State University, Ft. Collins, CO. (1999) - <i>to be contents only</i>
	Sullivan, J.J., Parker, W.G. and Larson, LL. 1973. Duration of estrus and ovulation time in nonlactating mares given human chorionic gonadotropin during three successive estrous periods. J.A.V.M.A. 162:895-898.
	Taljaard, T.L., Terblanche, S.J., Bertschinger, H.J. and Van Vuuren, L.J. 1991. The effect of the laparoscopic insemination technique on the oestrus cycle of the ewe. J. S Afr. Vet. Assoc. 62(2):60-61.
	US Application 60/211093, entitled "Integrated System for Herd Management Using Sexed Semen", filed June 12, 2000.
	US Application 09/015,454, entitled "System for Improving Yield of Sexed Embryos in Mammals", filed on January 29, 1998, 59 total pages which includes drawings.
	US Application 09/001,394, entitled "Sheath Fluids and Collection Systems for Sex-Specific Cytometer Sorting of sperm", filed on December 31, 1997, 83 pages and 4 drawings.
	US Application 09/511,959 entitled "Methods For Improving Sheath Fluids and Collection Systems For Sex-Specific Cytometer Sorting of Sperm", filed February 23, 2001.

CH	US Application, 09/454,488, entitled "Improved Flow Cytometer Nozzle and Flow Cytometer Sample Handling Methods", filed December 3, 1999.
	US Application, 09/448,643, entitled "Multiple Sexed Embryo Production System for Mammals", filed November 24, 1999.
	US Application, 60/224,050, entitled "Integrated System for Herd Management With Terminal-Cross Program Using Sexed Semen", filed August 9, 2000.
	US Application, 60/238,294, entitled "Hysteroscopic Insemination of Mares" filed October 5, 2000.
	Vazquez, J., et al., "Development of a Non-surgical Deep Intra Uterine Insemination Technique", IV International Conference on Boar Semen Preservation, Maryland, August, 1999, p 35 and photo of display board.
	Vazquez, J., et al., "Hypoosmotic Swelling Test as Predictor of the Membrane Integrity in Boar Spermatozoa", Boar Semen Preservation IV, IVth International Conference on Boar Semen Preservation, Maryland, pp. 263.
	Vazquez, J., et al., "Successful Low-Dose Insemination by a Fiberoptic Endoscope Technique in the Sow", Proceedings Annual Conference of the International Embryo Transfer Society, Netherlands, Theriogenology, Vol. 53, January, 2000, pp. 201.
	Vazquez, J., et al., "Nonsurgical Uterotubal Insemination in the Mare", Proceedings of the 44th Annual Convention of the American Association of Equine Practitioners, Baltimore, Maryland, December 6-9, 1998, Vol. 44, pp 68-69
	Vazquez, J., et al., "A.I. in Swine; New Strategy for Deep Insemination with Low Number of Spermatozoa Using a Non-surgical Methodology", 14th International Congress on Animal Reproduction, Vol. 2, Stockholom, July, 2000, p. 289.
	Vazquez, J., et al., "Development of a Non-surgical Deep Intra Uterine Insemination Technique", IV International Conference on Boar Semen Preservation, Maryland, August, 1999, p 35 and photo of display board.
	Vidament, M., Dupere, A.M., Julienne, P., Evain, A., Noue, P. and Palmer, E. 1997. Equine frozen semen freezeability and fertility field results. Theriogenology. 48:907.
	Voss, J.L., Pickett, B.W., Burwash, L.D. and Daniels, W.H. 1974. Effect of human chorionic gonadotropin on duration of estrous cycle and fertility of normally cycling, nonlactating mares. J.A.V.M.A. 165:704-706.
	Voss, J.L., Squires, E.L., Pickett, B.W., Shideler, R.K. and Eikenberry, D.J. 1982. Effect of number and frequency of inseminations on fertility in mares. J. Reprod. Fert. Suppl. 32:53-57.
	Welch, G., et al., "Flow Cytometric Sperm Sorting and PCR to Confirm Separation of X- and Y- Chromosome Bearing Bovine Sperm", Animal Biotechnology, 6 (2), 131-139, 1995, pp 131 - 139.
	Welch G.R., et al., 1994. Fluidic and optical modifications to a FACS IV for flow sorting of X- and Y- chromosome bearing sperm based on DNA. Cytometry 17 (suppl. 7): 74.
	Wilson, C.G., Downie, C.R., Hughes, J.P. and Roser, J.F. 1990. Effects of repeated hCG injections on reproductive efficiency in mares. Eq. Vet. Sci. 4:301-308.
	Wilson, M.S. 1993. Non-surgical intrauterine artificial insemination in bitches using frozen semen. J.Reprod. Fert Suppl. 47:307-311.
	Woods, J. and Ginther, O.J. 1983. Recent studies related to the collection of multiple embryos in mares. Theriogenology. 19:101 - 108.
CH	XP-002103478, File Biosis, (1988), one page
EXAMINER	DATE CONSIDERED
Cale Myers	12-12-02
EXAMINER: Please initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.	



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE CITATION SUPPLEMENTAL	BUCKET NO. XY EQUINE 3 USNP	SERIAL NO. 09/744,675
	APPLICANT (S) Edward L. Squires, Patrick M. McCue and George E. Seidel	
	FILING DATE January 29, 2001	ART UNIT

I. U.S. PATENT DOCUMENTS

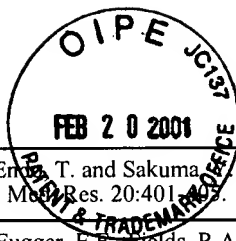
EXAMINER INITIAL	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE

II. FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NO	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO

III. OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

Ch	Beyhan, Z., Welch, G.R. and First, N.L. 1998. Sexual dimorphism in IVF bovine embryos produced by sperm sorted by high speed flow cytometry. Theriogenology. 49(1):359. abstr.
	Brethour, J.R. and Jaeger, J.R., "The Single Calf Heifer System", Kansas Agric. Sta. Rep of Progress 570, 1989.
	Buchanan, B.R., et al, "Insemination of Mares with Low Numbers of Either Unsexed or Sexed Spermatozoa", Theriogenology, Vol. 53, pp 1333-1344, (2000)
	Chin, W.W. and Boime, I. 1990. In: Glycoprotein Hormones. Serona Symp. Norwell, MA. pp. 19-20
	Douglas, R.H. 1979. Review of superovulation and embryo transfer in the equine. Theriogenology. 11:33-46.
	Foulkes, J.A., Stewart, D.L. and Herbert, C.N. 1977. Artificial insemination of cattle using varying numbers of spermatozoa. Vet. Rec. 101:205.
	Ginther, O.J. 1992. In: Reproductive Biology of the Mare. (2 nd Ed.) Equiservices, Cross Plains, WI. <i>Front cover of book only</i>
	Gledhill, B.L. 1988. Gender preselection: historical, technical and ethical perspective. Semin Reprod. Endocrinol. 6:385-395.
	Grondahl, C., et al, "In Vitro Production of Equine Embryos", Biology of Reproduction, Monograph Series I, pp. 299-307 (1995)
	Hunter, R.H.F. 1980. Transport and storage of spermatozoa in the female reproductive tract. Proc 4 th Int. Congr. Artira. Repro. and A.I. 9:227-233.
	Irvine, C.H.G. and Alexander, S.L. 1993. In: Equine Reproduction. Edited by McKirmon and Voss. Lea and Febiger. Philadelphia, London. pp. 37.
	Johnson, L.A., Flook, J.P., Look, M.V. and Pinkel, D. 1987a. Flow sorting of X and Y chromosome-bearing sperm for DNA using an improved preparation method and staining with Hoechst 33342. Gam. Res. 17:1-9.
	Johnson, L.A. and Schulman, J.D. 1994. The safety of sperm selection by flow cytometry. Ham. Reprod. 9(5):758.
	Johnson, L.A. 1988. Flow cytometric determination of spermatozoa sex ratio in semen purportedly enriched for X or Y bearing spermatozoa. Theriogenology. 29:265. abstr.
Ch	Johnson, L.A. 1995. Sex preselection by flow cytometric separation of X and Y chromosome bearing spermatozoa based on DNA difference: a review. Reprod. Fert. Dev. 7:893-903.



Can	Kanayama, K., Sankai, T., Nariaik, K., Endo, T. and Sakuma, T. 1992b. Pregnancy by means of tubal insemination and subsequent spontaneous pregnancy in rabbits. J. Int. Med. Res. 20:401-403.
Am	Levinson, G., Keyvanfar, K., Wu, J.C., Fugger, E.F., Fields, R.A., Harton, G.L., Palmer, F.T., Sisson, M.E., Starr, K.M., Dennison-Lagos, L., Calvo, L., Sherins, R.J., Bick, D., Schulman, J.D. and Black, S.H. 1995. DNA-based X-enriched sperm separation as an adjunct to preimplantation genetic testing for the preparation of X-linked disease. Mol. Human Reprod. 10:979-982.
	Linge, P. 1972. Fältforsök med djupfrost sperma (field trials with frozen sperm). Farskotsel. 52:12-13.
Can	Loy, R.G. and Hughes, J.P. 1965. The effects of human chorionic gonadotropin on ovulation, length of estrus, and fertility in the mare. Cornell Vet. 56:41-50.
	McCue, P.M. 1996. Superovulation. Vet. Clin. N. Amer. Eq. Prac. 12:1-11.
	McCue, P.M., Fleury, J.J., Denniston, D.J., Graham, J.K. and Squires, E.L. 1997. Oviductal insemination in the mare. 7 th Int Symp. Eq. Reprod. 133. abstr.
	Miller, S.J. 1986. <i>Artificial Breeding Techniques in Sheep</i> . In Morrow, D.A. (ed): Current Therapy in Theriogenology 2. Philadelphia, WB Saunders. <i>Artificial Breeding</i>
	Mirskaja, L.M. and Petrapavlovskii, V.V. 1937. The reproduction of normal duration of heat in the mare by the administration of Prolan. Probl. Zivotn. Anim. Breed. Abstr. 5:387.
	Munne, S. 1994. Flow cytometry separation of X and Y spermatozoa could be detrimental to human embryos. Hum. Reprod. 9(5):758
	Pickett, B.W, et al., 1976. Factors influencing the fertility of stallion spermatozoa in an A.I. program. Proc. 8 th Internat. Congr. Anim. Reprod. A.I. Krakow, Poland. 4: 1049 - 1052.
	Pickett GW, et al., "Management of the mare for maximum reproductive efficiency" Bulletin No. 6 Colorado State University, Ft. Collins CO. (1989) <i>Table of content only</i>
	Pickett, B.W. and Back, D.G. 1973. Procedures for preparation, collection, evaluation and insemination of stallion semen. C.S.U. Exp. Sta. Artira. Reprod. Lab. Gen. Series Bull. 935.
	Pinkel, D., Gledhill, B.L., Van Dilla, M.A., Stephenson, D. and Watchmaker, G. 1982b. High resolution DNA measurements of mammalian spermatozoa. Cytometry. 3:1-9. (1982b)
	Roser, J.F., Evans, J.W., Kiefer, D.P., Neeley, D.P. and Pacheco, C.A. 1980. Reproductive efficiency in mares with anti-hCG antibodies. Proc 9 th Int. Congr. Artira. Repro. and A.I. 4:627. abstr.
	Schmid R.L., et al, "Fertilization with Sexed Equine Spermatozoa Using Intracytoplasmic Sperm Injection and Oviductal Insemination", 7th International Symposium On Equine Reproduction, pp. 139 (Abstract) (1998)
	Seidel, G.E. Jr, et al., "Insemination of Heifers with Sexed Sperm", Theriogenology, Vol. 52, pp. 1407-1421 (1999)
	Seidel, G.E. Jr., Cran, D.G., Herickoff, L.A., Schenk, J.L., Doyle, S.P. and Green, R.D. 1999. Insemination of heifers with sexed frozen or sexed liquid semen. Theriogenology. 51. (in press). abstr.(1999)
	Shilova, A.V., Platov, E.M. and Lebedev, S.G. 1976. The use of human chorionic gonadotrophin for ovulation date regulation in mares. VIIIth Int. Congr. On Anim. Repro. and A.I. 204-208.
	Squires, E.L., "Early Embryonic Loss" in Equine Diagnostic Ultrasonography, 1 st Ed. pp 157-163 Eds Rantanen & McKinnon. Williams and Wilkins, Baltimore, Maryland (1998)
	Taylor, C.S., Moore, A.J. Thiessen, R.B. and Bailey, C.M., AFRC Animal Breeding Research Organisation, West Mains Road, Edinburg EH9 3JQ, "Efficiency of Food Utilization in Traditional and Sex-Controlled Systems of Beef Production", pp 401-440.
	Voss, J.L. and Pickett, B.W. 1976. Reproductive management of the broodmare. C.S.U. Exp. Sta. Anim. Reprod. Lab. Gen. Series. Bull. 961.
	Woods, J., Bergfelt, D.R. and Ginther, O.J. 1990. Effects of time of insemination relative to ovulation on pregnancy rate and embryonic-loss rate in mares. Eq. Vet. J. 22(6):410-415.

EXAMINER

Carla Myers

DATE

10-10-02

EXAMINER: Please initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.